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(54) A system for managing user-characterizing network protocol headers

System zur Verwaltung von Benutzercharakterisierenden Protokollkopfteilen

Système pour la gestion des têtes de protocole qui characterisent les utilisateurs

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- **"Utility Guide 98, Cookie Managers" PC MAGAZINE ONLINE, [Online] 24 March 1998 (1998-03-24), pages 1-2, XP002188264 Retrieved from the Internet: <URL:http://www.zdnet.com/pcmag/features/u tilities98/internetsecurity/cookies.html> [retrieved on 2002-01-24]**

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Description

[0001] The present invention pertains to user-characterizing network protocol headers, such as so-called Internet "cookies," which are used by Internet content providers for various reasons, but in particular for providing information about a user to a website operated by the Internet content provider. More particularly, the present invention pertains to a system for managing such protocol headers, enabling a user to interpret and, preferably, adjust the content of the protocol headers.

[0002] An Internet cookie is a protocol header consisting of a string of characters (cookie content) that is inserted by a web server, operated by an Internet Content Provider (ICP), into the random access memory (RAM) on a user's computer (client) while the user is operating a browser (application program) to access web pages on the Internet, typically through an Internet Service Provider (ISP) using the World Wide Web (type of network operating system). An ICP may also be an ISP, as in the case of, for example, American On Line.

[0003] A web server may "set" a cookie at various points during a user's access of the web server. The string of characters or content comprising a cookie specifies a domain, path, lifetime and value of a variable. The variable may be, for example, the number of times the user has visited the web server or particular web pages provided by the web server, and the domain and path indicate a website (a group of similar web pages operated by a single entity). If the lifetime of the cookie is greater than the time the user spends at the website, then the cookie may be saved in a cookie file (file of cookies) for future reference by either the user, the web server setting the cookie or other web servers.

[0004] Cookies are set for many different reasons, including enabling a web server or an ICP to customize the information it provides to a user, to facilitate on-line sales or services (e.g., implementing a so-called "shopping basket"), for tracking web pages the user has visited, or for providing the web server or ICP's website with some demographic information (presumably only geographical information or at what time a user tends to visit the ICT's website).

[0005] The idea behind the use of protocol headers such as cookies is to enable a web server or ICP to gather information about a user. By setting one or more long-lived cookies in a users cookie file, the next time the user accesses the website, the ICP can know certain information about the user that will, in theory, facilitate the user's productive use of the information accessible at the ICP's website. This works because when an ISP directs a user to a website, the browser on the user's computer examines its cookie file for cookies that have been set by the website and provides those cookies to the website by way of introducing itself (representing the user) to the website. The website may then, or sometime later, set new cookies on the user's computer, or alter the value of cookies previously set there.

[0006] Cookies are also used to securely store personal data a user has shared with a website. As mentioned above, cookies set by an ICP in the RAM of a user's computer end up stored in a file on the user's hard drive if the lifetime of cookie is longer than the time the user spends at the ICP's website. All such cookies are stored in a single file on the user's hard drive (a file usually called "cookies.txt").

[0007] More browsers today, including Netscape and Microsoft Internet Explorer, can be configured to display to a user a warning that a cookie is about to be set, and to give the user the option of blocking the cookie. The user is often even able to view the content of the cookies. However, the user often has no knowledge of the meaning of the content of the cookie nor the intended use for the cookie contents by the ICP. In some cases, when a user blocks an ICP from setting a cookie, the ICP's website refuses to allow access to the website by the user. Since there are many innocuous and quite useful reasons for a website to set a cookie, it is probably not, as a general rule, in the user's best interest to simply block all cookies.

[0008] In addition to configurable software for disabling a website from setting a cookie in the first place, the prior art includes a number of applications intended to assist a user in removing the file of long-lived cookies (the cookie file). Both the cookie-blocking browsers and cookie file managers indicate to a user the identity of the website responsible for each cookie intended to be set or stored in the cookie file. Identifying the website that set a cookie is easy because, as indicated above, each cookie includes, as text, the path and domain for the website that set the cookie. The prior art also includes software that will enable a user to remove sensitive information from the user's browser cache and cookie files.

[0009] US 5467472 relates to generating and maintaining property sets is provided. In a preferred embodiment, a property set stream is generated. The stream comprises three parts: a header, a section locator array, and one or more sections. The header contains information for uniquely identifying the property set and for identifying the number of sections within the property set. The section locator array contains a unique identifier for each section and an offset indicating where the section resides within the stream. The third part, the section definitions, contains the information necessary to maintain groups of properties for each section. Each section contains a section header, a property locator array, and an array of property type-value pairs. The section header indicates both the size of the section and the number of properties defined within the section. The property locator array contains unique property identifiers for each property defined in the section and a relative offset, from the beginning of the section, to the property definition. Each property definition appears as a type/value pair, the type indicator indicating the data format for the property and the value field containing or referencing the data. In a preferred embodiment, a property set is generated by allocating appropriate storage and by storing values in the standard structure for a property set.

[0010] US 5754872 discloses how in a character recognizing system having a plurality of terminals interconnected by a network, a dictionary for recognizing a character pattern inputted in an image form maybe distributed to each terminal. When a dictionary necessary for recognizing a character pattern inputted from one terminal is not provided in that terminal, the character pattern is transferred through the network to another terminal in which the necessary dictionary is provided, and is recognized by the other terminal. Each terminal is provided with a function of specifying a terminal having a dictionary necessary for recognizing the inputted character pattern. For example, characters offering keys are defined beforehand and each terminal is provided with a dictionary capable of recognizing the key characters and a table indicative of a relationship between the key characters and terminals corresponding to the key characters, whereby one terminal is specified in accordance with a key character.

[0011] The document XP 002188264 "Utility Guide 98, Cookie Managers" published in PC Magazine Online on March 24, 1998 describes a number of cookie manager utilities, some of which only block cookies but others of which will delete cookie files that already reside on a user's system. Some utilities allow a user to examine cookie files and select which ones to keep in order to afford the user greater control. Some utilities include privacy features that clean browser caches and history files.

[0012] Accordingly, the present invention has an object of interpreting for a computer user the content of a user-characterizing protocol header, such as an Internet cookie, and, optionally, adjusting its content.

[0013] It is another object of the present invention to enable such a user to fabricate a user-characterizing protocol header having content of the user's own creation, and thereby convey to a website information the user wants to convey.

[0014] Correspondingly, it is a still further, optional object of the present invention to provide a means by which a website receiving from a user a protocol header fabricated by the user can interpret the protocol header if its interpretation is not apparent from inspection.

[0015] According to the present invention there is provided a system for interfacing with a string of characters defining a protocol header in accordance with the appended claim 1; preferred embodiments of the invention are defined in the dependent claims.

[0016] The invention itself, as well as other features and advantages thereof, will be best understood by reference to the detailed description when read in conjunction with the accompanying drawings, of which:

Fig. 1 is a block diagram of a system for managing an Internet cookie according to the present invention;

Fig. 2 is a block diagram of a system for managing a user-characterizing protocol header according to the present invention; and

Fig. 3 and Fig. 4 in combination are a flow chart for managing a user-characterizing protocol header according to the present invention.

[0017] What the prior art does not provide is a means by which a user can, using the same mechanism for exchanging information about who the user is, convey to a website preferences the user may wish to convey, instead of only preferences the website has deemed useful to know. For example, a user may wish to communicate to a website that the user would prefer to receive any advertising, demonstration material or other kinds of literature as postal mail or through a courier service.

[0018] What stands in the way of communicating such preferences is that the ICP website that sets a cookie sometimes does not have variables (types of cookie) that are appropriate for what the user wants to express. What is needed is a means by which a user can not only identify and delete a cookie file or delete particular cookies within a cookie file or still in RAM, only guessing what the cookies content conveys, but a means of actually interpreting the content of the cookies within a cookie file or still in RAM, and also a means by which a user can create new types of cookies (cookies with new variables) that may be offered to a website of an ICP.

[0019] To achieve these objects, the present invention interfaces with a string of characters defining a protocol header on a user's computer to provide a user with an interpretation of at least a portion of the string of characters, the invention comprising: a dictionary containing at least one entry, the entry comprising a first string of characters representing at least a portion of the protocol header and a second string of characters representing a meaning associated with the first string of characters; an interpreter for retrieving the second string of characters based upon the first string of characters; and an editor, for displaying the second string of characters retrieved by the interpreter.

[0020] The present invention is hereinafter described in a particular context of the Internet, namely where a user operates a computer attached to the Internet, and accesses websites of Internet content providers through the World Wide Web, using a browser, which, as part of the World Wide Web protocol, allows websites to set on the user's computer so-called Internet cookies, which are a kind of user-characterizing protocol header. The present invention, however, need not find application only on the Internet, or only in the World Wide Web environment of the Internet. Instead of the Internet, the present invention can be used on any network in which there is, as a protocol between sites of the network, the setting of user-characterizing protocol headers by a computer at one site onto the computer at another site.

Thus, the network can be different than the Internet, the network operating system can be different than the World Wide Web, the site interfacing software for interfacing with a server at a site of the network can be different than the browsers of the World Wide Web, and the protocol headers exchanged between sites can be different than cookies, but are still a user-characterizing protocol header in the sense that an Internet cookie characterizes a user for a website.

[0021] The cookies that are managed by the present invention can be on the user's computer; they may reside in random access memory (RAM), or in non-volatile storage, such as the user's hard drive.

[0022] The preferred embodiment of the present invention includes a data dictionary, on the user's computer, that serves as a basis by which the present invention interprets cookies on the user's computer. This data dictionary is here called a local cookie dictionary, and its entries are types of cookies, or, equivalently, cookie variable types. The local cookie dictionary is the dictionary routinely used, in the preferred embodiment, to interpret cookies. It is the data dictionary first referred to. Any data dictionary used as such a principal reference, is here called a principal dictionary. Such a data dictionary need not be on the user's computer. Instead, it may be remote.

[0023] For each entry in the local cookie dictionary, i. e., for each type of cookie, the local cookie dictionary provides content data indicating an interpretation of any particular cookie of that type, including an explanation of the cookie type, i.e., the cookie variable, and information about the possible values that can be assigned to the cookie. The interpretation for each entry is sufficient for building a template out of which a cookie can be fabricated; to enable building such a template, content data for an entry includes an indication of how to parse any associated cookie. For some Internet cookies, those that rely on a tab to delimit the fields of a cookie, the parsing information simply indicates the use of tab-delimited fields.

[0024] The invention further provides a cookie editor that enables the user to manage the cookies on the user's computer. The cookie editor does not, however, access the cookies directly; instead the editor interfaces with a cookie interpreter that interprets each cookie, based on the local cookie dictionary. The interpreter not only provides an interpretation of cookies, but also provides information, as part of the interpretation, of the possible values of the cookie. In the basic invention, the cookie interpreter merely provides to the cookie editor an interpretation of a cookie, which the editor then displays. For example, the editor displays a cookie in a way that explains each textual character or logically related set of textual characters making up the cookie. In the preferred embodiment, the user never even views a cookie in its native format, i.e., in the format in which it would appear if it were accessed using a generic text editor.

[0025] In optional enhancements of the basic invention, the cookie editor enables the user to alter the values of cookies.

[0026] In a further optional enhancement, the interpreter lets the user, through commands to the editor, scroll through the local cookie dictionary and view cookie types the user might want to use to express to a website preferences the user might have, such as preferences the user might have related to how the website sends the user advertising. For example, the user might want to express to a website that the user would prefer that any advertising the website owner might send to the user be sent by postal mail. In that case, the user would select from the local cookie dictionary a cookie for expressing how the user would like to receive advertising, and would indicate, as a value for this cookie, postal mail. The user would also indicate to the editor the website that is to receive the cookie so that the editor can make the cookie into one for that website. How the website would interpret the cookie is addressed in further refinements of the basic invention, but if the cookie is intentionally made to be clear in what it is communicating, the cookie could be interpreted by the recipient without any sort of dictionary.

[0027] As explained above, the interpreter stands between the user, acting through the editor, and the cookie. The interpreter ensures the integrity of the cookie by preventing the user from fabricating a cookie or altering a cookie so as to produce a cookie not according to proper format.

[0028] As an optional enhancement, to provide for sharing of information about the types of cookies set by different websites, and also the types of cookies the user might want to fabricate, the invention makes accessible over the Internet both a site-specific cookie dictionary providing an interpretation of the different variables used by different websites and identifying which websites uses which variables, and also a universal cookie dictionary providing an interpretation of cookie types for expressing a preference to a website.

[0029] Referring now to Fig. 1, a system for managing Internet cookies, either in a cookie file **10** or RAM (not shown), is shown, in the preferred embodiment, to include a cookie interpreter **15**, which uses entries (cookie types) and corresponding cookie interpretations in a local cookie dictionary **17**, managed by a local cookie dictionary manager **16**, to provide to a user, through a cookie editor **13**, interpretations of cookies. The cookie file **10** is read from and written to, from time to time, by a browser **11** operated by the user. With the browser, the user accesses, through an Internet service provider (ISP) **12**, different cookie-setting websites of different Internet content provider **23** (ICPs). In the preferred embodiment, the invention also includes a site-specific cookie dictionary **21** located at a website accessible over the Internet, as well as a universal cookie dictionary **22**, located at a website accessible via the Internet.

[0030] The first time this invention is used, it provides the user with typical personal information and cookie content on which the user might want to base general preferences for information that might be conveyed by a cookie. The user may set these general preferences to *allow*, *block*, or *modify* a particular item of this personal information or cookie content. For instance, the user may not want to include certain personal information that may have been obtained from sources other than directly from the user; such personal information might include income, age, hobbies, etc.

[0031] The present invention is used by a user in two ways: for managing cookies in the user's cookie file **10**, or for managing cookies in RAM. In the first way, while the user is either connected to the Internet or offline, the user activates the cookie editor **13** in file mode (as compared with RAM mode, as explained below). The cookie editor then presents to the user an interpreted display of each cookie in the cookie file **10**, the interpretation provided through the cookie interpreter **15**, using the local cookie dictionary **17** stored on the user's computer. The local cookie dictionary **17** includes at least a subset of the site-specific dictionary entries, and, in the preferred embodiment, all of the (probably much smaller) universal cookie dictionary entries.

[0032] Thereafter, for effective use of the present invention, every time browser **11** is activated by the user prior to customizing a cookie file, the user will access the universal cookie dictionary **22** and the site-specific cookie dictionary **21** over the Internet, using the local cookie dictionary manager **16**. In the preferred embodiment, the cookie dictionary manager will examine the cookie file **10** on the user's computer and extract from the site-specific cookie dictionary **21** the dictionary items needed by the cookie interpreter **15** to interpret the cookies in the user's cookie file **10**, and will also extract from the universal cookie dictionary *all* of the dictionary items, so that the user has available all possible cookie types for communicating preferences to a website.

[0033] According to the standard for a cookie presently proposed by the Internet Engineering Task Force (proposed standard RFC 2109), the content of a cookie includes six parameters:

- the name of the cookie (i.e., the type of cookie);
- the value of the cookie;
- expiration date of the cookie;
- path the cookie is valid for;
- domain the cookie is valid for; and
- whether there is a need for a secure connection to use the cookie.

[0034] The name and value of a cookie are mandatory content, and the other four parameters can be set manually or automatically. The name (of the cookie/cookie variable) and value (of the cookie/cookie variable) are the essential content of the two cookie dictionaries **21** and **22**. For example, in the universal cookie dictionary **22**, in the preferred embodiment, there is at least a name and possible values that would allow a user to specify that the user wishes to have all advertising or product literature provided by, for example, first class U.S. mail; thus, the universal cookie dictionary **22** might include here a name "mail-preference," and might include as possible values: U.S. mail, different couriers, and perhaps e-mail.

[0035] From this example, it would seem that the use of a cookie dictionary to enable the cookie interpreter **15** to pass to the cookie editor **13** an interpretation of a cookie is not always necessary. Indeed; some of the names (types of cookies) are probably suggestive enough to reveal unambiguously the content of a cookie. However, in many cases a cookie will have a name that is intentionally vague so that only the website that set the cookie will know the content. Thus, for example, one bookstore company on the Internet would have a cookie with content that is difficult for competing bookstores to decipher. For this reason, in general, the local cookie dictionary **17** is needed.

[0036] There is, of course, no motivation for obscuring the meaning of the variables in the universal cookie dictionary; thus these variables would be named as suggestively as possible. In fact, in another aspect of the present invention, there is no universal cookie dictionary. Instead, the cookie editor **13** enables a user to create *ad hoc* variable names and corresponding values. It is then envisioned that website operators will discover that cookies are being conveyed back to their websites with variables not of their own devising. In that case, the website operator can account for these new variables manually, or, when a website operator discovers that a cookie has been returned with a new variable, the website can be configured to automatically access the universal cookie dictionary **22** through the Internet to interpret a cookie created by a user.

[0037] In the preferred embodiment, the cookie dictionaries **21** and **22** are maintained by a third party. Users can communicate with the third party any suggestions they have for new variables (types of cookies) and their corresponding range of values by visiting the website of the third party or otherwise communicating their suggestions to the third party. In another aspect of the present invention, users maintain a universal cookie dictionary on their computers, and each website comes to learn that when encountering a cookie created by a user, the website should refer to the user's private universal cookie dictionary to unambiguously interpret the cookie.

[0038] In the second way of using the present invention, the user manages a cookie in RAM. In this case, when a website sets a cookie in RAM, the browser notifies the cookie interpreter and passes to the it the RAM address of the cookie. The cookie interpreter executes the cookie editor; the editor then automatically executes in RAM mode (compared to file mode, noted above), i. e., without any involvement by the user. Then the cookie editor attempts to interpret the cookie based on the local cookie dictionary. If it cannot, it directs the browser **11**

to access the site-specific cookie dictionary **21**, and then searches that dictionary for an interpretation of the cookie. If it locates the interpretation for the cookie, it provides the interpretation to the cookie editor, which in turn displays the interpretation to the user. The user can then inspect the cookie, alter it, or block it.

[0039] Another way of managing cookies in RAM is for a user to fabricate a cookie while accessing a website using the browser **11**. The user would do this to convey to the website preferences the user may want the website to know. In this scenario, the user executes the cookie editor **13** in RAM mode, as compared with file mode used to manage cookies in the cookie file, and then fabricates a cookie in the same way as when the cookie editor is executed in offline mode. When the user is done fabricating the cookie, the cookie editor sets the cookie in RAM without any further involvement by the user.

[0040] Referring now to Fig. 2, a system for managing a user-characterizing protocol header in a general context, not necessarily the Internet, is shown. Here, a user (not shown) invokes an editor **32** in order to manage a user-characterizing protocol header (not shown) from a user-characterizing protocol header source **30**. The editor **32** automatically invokes an interpreter **31**, which examines the protocol header and searches the local dictionary **33**, or, alternatively, searches remote dictionaries **34** residing on a computer other than the user's. In the preferred embodiment, the interpreter **31** would consult the remote dictionaries **34** only if it fails to find, in the principal dictionary, an entry corresponding to the protocol header.

[0041] The interpreter **31** prevents the user from interfacing directly with a protocol header. Ordinarily, an embodiment of the present invention would have the interpreter **31** even prevent the user from ever directly viewing a protocol header, i.e., viewing it in its native format, as a pure character string; although in some applications it may be useful for the user to see what a protocol header "really" looks like, and an embodiment in which the interpreter can, optionally, provide such a view is intended to be within the scope of the present invention.

[0042] In the usual embodiment, though, the interpreter **31** passes to the editor only the content information in one or another dictionary sufficient for the editor to display the protocol header in a way that makes evident the meaning of each logically related subset of characters of the character string composing the protocol header. The editor **32** then displays this information, and in the preferred embodiment does so by providing on the screen a name for each logically related subset of characters that is at least suggestive to the user of the meaning of the characters. If the user wants, the user can prompt the editor to provide additional interpretation of any particular subset of characters, or, preferably, the editor would do so whenever the user places the pointer from a pointing device on the field and rests it there for more than a brief interval. The editor **32** receives this additional interpretation, as well as all the other content information for the protocol header, from the interpreter **31**, and usually all at once, although in some embodiments it is preferable to provide content information only as needed.

[0043] Referring now to Fig. 3 and Fig. 4, which in combination indicate various possible sequences of steps in the operation of the present invention, as shown in Fig. 2.

[0044] More generally, the present invention in essence interfaces with a string of characters defining a protocol header on a user's computer to provide a user with an interpretation of at least a portion of the string of characters, the invention comprising: a dictionary containing at least one entry, the entry comprising a first string of characters representing at least a portion of the protocol header and a second string of characters representing a meaning associated with the first string of characters; an interpreter for retrieving the second string of characters based upon the first string of characters; and an editor, for displaying the second string of characters retrieved by the interpreter. The first string of characters is often the character string that defines the type of the protocol header, but need not be. In the Internet context, a website might not use a type (name of a cookie). Instead, it might encode within the value of the cookie both a type and its value. This would be done, for example, to make its cookies more resistant to attempts by others to decipher them. In this scenario, the interpreter, in examining the cookie, would find in referring to a dictionary (principal or other) that the website employs such a scheme and would extract from the dictionary content data indicating an interpretation of the cookie without relying on the type of cookie, just its value.

[0045] Although a preferred embodiment of the invention has been specifically described, it will be understood that the invention is to be limited only by the appended claims, since variations and modifications of the preferred embodiment will become apparent to a person skilled in the art upon reference to the description of the invention herein. Therefore, it is contemplated that the appended claims will cover any such modification or embodiments that fall within the true scope of the invention.

Claims

1. A system for interfacing with a string of characters defining a protocol header inserted on a user's computer by a server to provide a user with an interpretation of at least a portion of the string of characters, the system comprising:

   a dictionary (17;21;22;33;34) containing at least one entry, the entry comprising a first string of characters representing at least a portion of the protocol header and a second string of characters representing a meaning associated with the first string of characters;

an interpreter (15;31) for retrieving the second string of characters based upon the first string of characters; and

an editor (13;32), for displaying the second string of characters retrieved by the interpreter (15;31), said editor further enabling the user to edit the content of said protocol header, for conveying back to said server,

and said editor **characterised in that** it is enabling the user to fabricate a protocol header expressing a preference of the user, based on an entry, provided by the interpreter (15;31), from the dictionary.

2. The system claimed in Claim 1, wherein the first string of characters defines a type for the protocol header.

3. The system claimed in Claim 1, wherein the first string of characters defines a value for the protocol header.

4. The system of any of Claims 1 to 3, wherein said string of characters defines at least a type and a value, said dictionary is a principal dictionary (33), having at least one entry, each entry corresponding to a protocol header of a particular type, each entry containing content data indicating an interpretation of at least one type of protocol header; said interpreter (31) is, for associating a specific entry in the principal dictionary (33) with a particular protocol header, and for providing an interpretation of the protocol header according to the content data contained in the entry.

5. A system as claimed in Claim 4, wherein the interpreter (31) also provides access to any entry in the principal dictionary (33), and wherein the editor displays each entry provided by the interpreter (31).

6. A system as claimed in Claim 5, further comprising:

   a) a universal dictionary (22), containing types of protocol headers not necessarily used by any network content provider and content data indicating interpretations of these types of protocol headers, for selection by a user in conveying preferences to a network content provider;
   b) a principal dictionary manager, for updating the principal dictionary so as to include entries from the universal dictionary.

7. A system as claimed in Claim 6, further comprising:

   a) a site-specific dictionary (21), containing at least one entry for a type of protocol header, each entry providing content data indicating an interpretation of at least one type of protocol header used by at least one network content provider.

8. A system as claimed in Claim 7, wherein, for a protocol header of a type not contained in the principal dictionary, the interpreter refers to the site-specific dictionary (21) to interpret the protocol header.

Patentansprüche

1. System zum Anschließen an eine Zeichenfolge, welche einen Protokoll-Header bestimmt, welcher durch einen Server bei einem Computer eines Benutzers eingesetzt ist, um einem Benutzer eine Interpretation von mindestens einem Abschnitt der Zeichenfolge bereitzustellen, wobei das System enthält:

   ein Verzeichnis (17; 21; 22; 33; 34), welches mindestens eine Eingabe enthält, wobei die Eingabe eine erste Zeichenfolge, welche mindestens einen Abschnitt des Protokoll-Headers darstellt, und eine zweite Zeichenfolge, welche eine mit der ersten Zeichenfolge in Verbindung stehende Bedeutung darstellt, enthält;

   einen Interpreter (15; 31) zum Abrufen der zweiten Zeichenfolge, basierend auf der ersten Zeichenfolge; und

   einen Editor (13; 32) zum Darstellen der durch den Interpreter (15; 31) abgerufenen zweiten Zeichenfolge, wobei es der Editor dem Benutzer ferner ermöglicht, den Inhalt des Protokoll-Headers zu editieren, und zwar zur Rückübermittlung an den Server,

   und wobei der Editor **dadurch gekennzeichnet ist, dass** es dem Benutzer ermöglicht wird, einen Protokoll-Header zu erzeugen, welcher eine Präferenz des Benutzers basierend auf einer vom Interpreter (15; 31) bereitgestellten Eingabe vom Verzeichnis ausdrückt.

2. System nach Anspruch 1, bei welchem die erste Zeichenfolge einen Typ für den Protokoll-Header bestimmt.

3. System nach Anspruch 1, bei welchem die erste Zeichenfolge einen Wert für den Protokoll-Header bestimmt.

4. System nach einem der Ansprüche 1 bis 3, bei welchem die Zeichenfolge mindestens einen Typ und

einen Wert bestimmt, wobei das Verzeichnis ein Hauptverzeichnis (33) ist, welches mindestens eine Eingabe hat, wobei jede Eingabe einem Protokoll-Header eines bestimmten Typs entspricht, wobei jede Eingabe Inhaltsdaten enthält, welche eine Interpretation von mindestens einem Typ an Protokoll-Header anzeigt; wobei der Interpreter (31) dazu dient, eine spezifische Eingabe im Hauptverzeichnis (33) mit einem bestimmten Protokoll-Header in Verbindung zu bringen, und eine Interpretation des Protokoll-Headers gemäß den in der Eingabe enthaltenen Inhaltsdaten bereitzustellen.

5. System nach Anspruch 4, bei welchem der Interpreter (31) ebenfalls einen Zugriff auf jegliche Eingaben im Hauptverzeichnis (33) bereitstellt, und bei welchem der Editor jede durch den Interpreter (31) bereitgestellte Eingabe anzeigt.

6. System nach Anspruch 5, welches ferner enthält:

a) ein Universalverzeichnis (22), welches Typen an Protokoll-Header, welche nicht notwendigerweise von irgendeinem Netzwerk-Inhalt Anbieter verwendet werden, und Inhaltsdaten enthält, welche Interpretationen dieser Typen an Protokoll-Header anzeigen, damit ein Benutzer beim Übermitteln von Präferenzen an einen Netzwerk-Inhalt Anbieter auswählen kann;

b) einen Hauptverzeichnis-Verwalter zum derartigen Aktualisieren des Hauptverzeichnisses, so dass es Eingaben vom Universalverzeichnis enthält.

7. System nach Anspruch 6, welches ferner enthält:

a) ein für einen Einsatzort spezifisches Verzeichnis (21), welches mindestens eine Eingabe für einen Typ an Protokoll-Header enthält, wobei jede Eingabe Inhaltsdaten bereitstellt, welche eine Interpretation von mindestens einem Typ an Protokoll-Header anzeigen, welcher von mindestens einem Netzwerk-Inhalt Anbieter verwendet wird.

8. System nach Anspruch 7, bei welchem der Interpreter bei einem Protokoll-Header von einem Typ, welcher nicht im Hauptverzeichnis enthalten ist, auf das für den Einsatzort spezifische Verzeichnis (21) Bezug nimmt, um den Protokoll-Header zu interpretieren.

Revendications

1. Système d'interfaçage avec une .chaîne de caractères définissant un en-tête de protocole inséré sur l'ordinateur d'utilisateur par un serveur pour donner à l'utilisateur une interprétation d'au moins une partie de la chaîne de caractères, le système comprenant :

un dictionnaire (17 ; 21 ; 22 ; 33 ; 34) contenant au moins une entrée, l'entrée comprenant une première chaîne de caractères représentant au moins une partie de l'en-tête de protocole et une deuxième chaîne de caractères représentant une signification associée à la première chaîne de caractères ;
un interpréteur (15 ; 31) destiné à extraire la deuxième chaîne de caractères sur la base de la première chaîne de caractères ; et
un éditeur (13 ; 32) destiné à afficher la deuxième chaîne de caractères extraite par l'interpréteur (15 ; 31), ledit éditeur permettant en outre à l'utilisateur d'éditer le contenu dudit en-tête de protocole, pour le réacheminement vers ledit serveur,
et ledit éditeur étant **caractérisé en ce qu**'il permet à l'utilisateur de fabriquer un en-tête de protocole exprimant une préférence de l'utilisateur, sur la base d'une entrée, fournie par l'interpréteur (15 ; 31), à partir du dictionnaire.

2. Système selon la revendication 1, dans lequel la première chaîne de caractères définit un type pour l'en-tête de protocole.

3. Système selon la revendication 1, dans lequel la première chaîne de caractères définit une valeur pour l'en-tête de protocole.

4. Système selon l'une quelconque des revendications 1 à 3, dans lequel ladite chaîne de caractères définit au moins un type et une valeur, ledit dictionnaire est un dictionnaire principal (33), ayant au moins une entrée, chaque entrée correspondant à un en-tête de protocole d'un type particulier, chaque entrée contenant des données de contenu indiquant une interprétation d'au moins un type d'en-tête de protocole ; ledit interpréteur (31) est destiné à associer une entrée spécifique dans le dictionnaire principal (33) à un en-tête de protocole particulier, et à fournir une interprétation de l'en-tête de protocole selon les données de contenu contenues dans l'entrée.

5. Système selon la revendication 4, dans lequel l'interpréteur (31) donne également accès à toute entrée dans le dictionnaire principal (33), et dans lequel l'éditeur affiche chaque entrée fournie par l'interpréteur (31).

6. Système selon la revendication 5, comprenant en outre :

a) un dictionnaire universel (22), contenant des types d'en-têtes de protocole pas nécessairement utilisées par tout fournisseur d'informations réseau et des données de contenu indiquant des interprétations de ces types d'en-têtes de protocole, pour la sélection par un utilisateur en acheminant des préférences vers un fournisseur d'informations réseau ;
b) un gestionnaire de dictionnaire principal, destiné à mettre à jour le dictionnaire principal de façon à comprendre des entrées depuis le dictionnaire universel.

7. Système selon la revendication 6, comprenant en outre :

a) un dictionnaire spécifique d'un site (21) contenant au moins une entrée pour un type d'en-tête de protocole, chaque entrée fournissant des données de contenu indiquant une interprétation d'au moins un type d'en-tête de protocole utilisée par au moins un fournisseur d'informations réseau.

8. Système selon la revendication 7, dans lequel, pour un en-tête de protocole d'un type non contenu dans le dictionnaire principal, l'interpréteur se réfère au dictionnaire spécifique d'un site (21) pour interpréter l'en-tête de protocole.

FIG .1

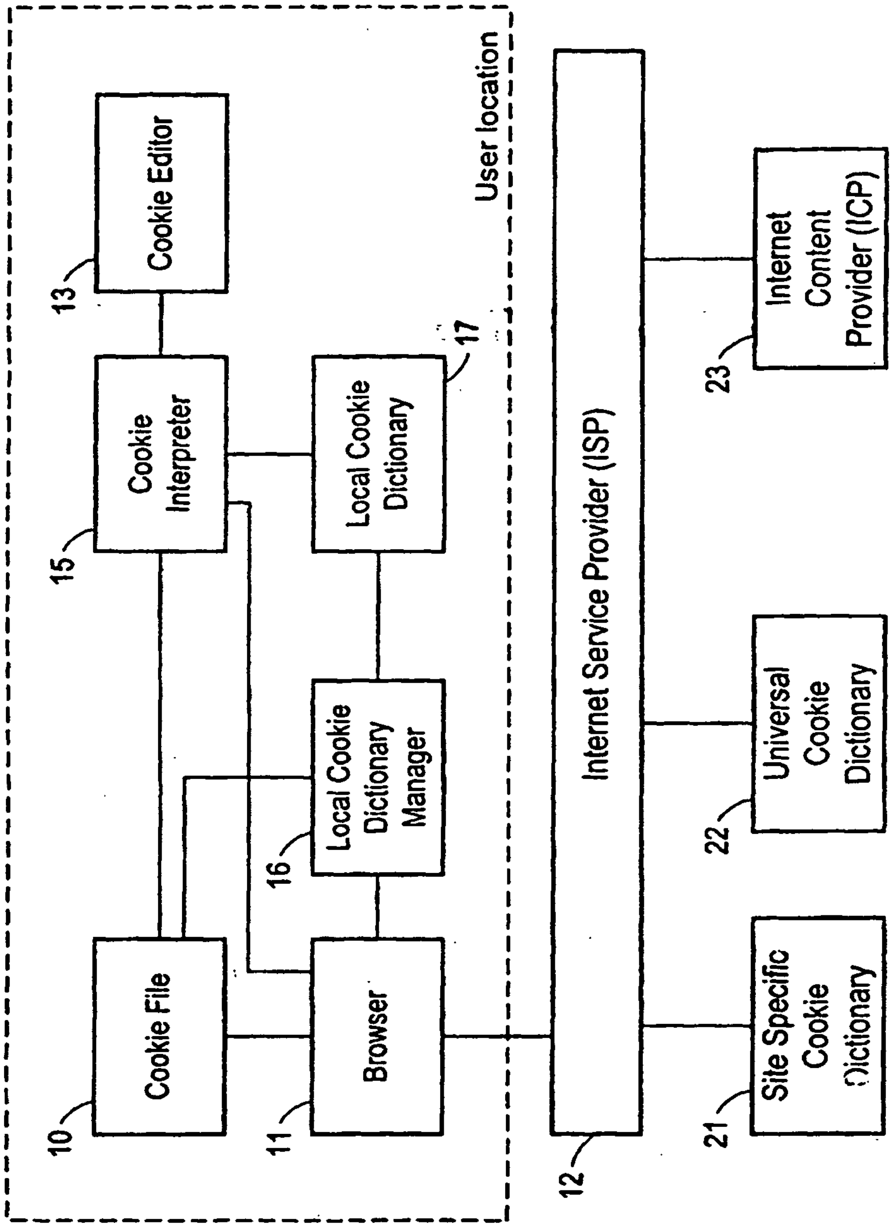
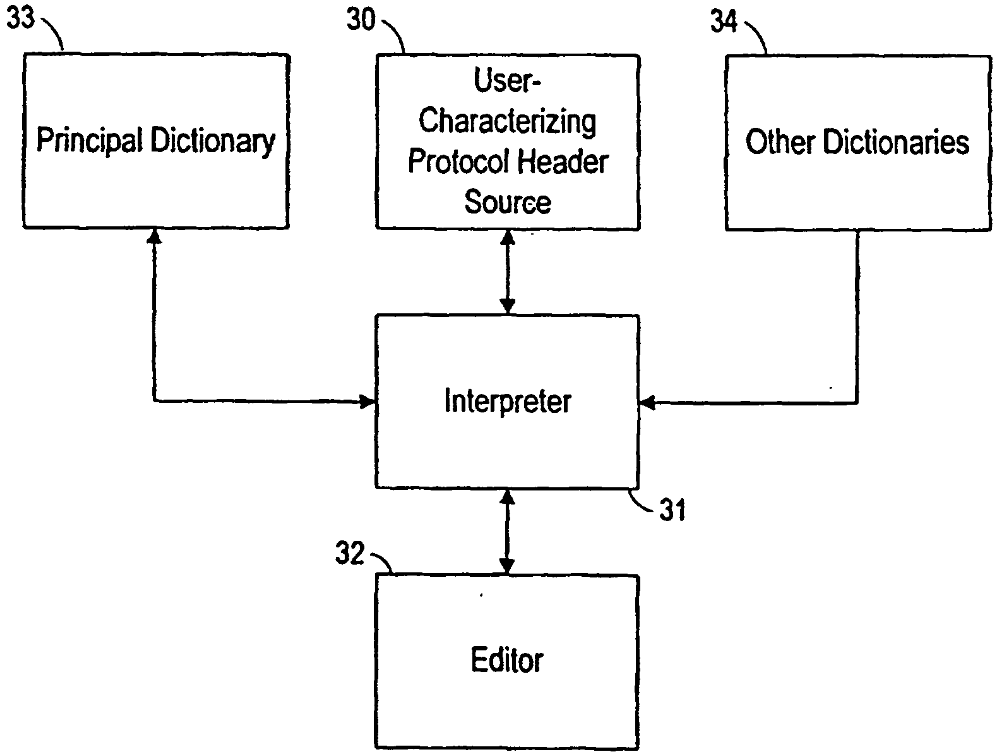

User location
Cookie Editor
13
Cookie Interpreter
15
Local Cookie Dictionary
17
Local Cookie Dictionary Manager
16
Cookie File
10
Browser
11
Internet Service Provider (ISP)
12
Internet Content Provider (ICP)
23
Universal Cookie Dictionary
22
Site Specific Cookie Dictionary
21

FIG. 2


33
Principal Dictionary
30
User-Characterizing Protocol Header Source
34
Other Dictionaries
Interpreter
31
32
Editor

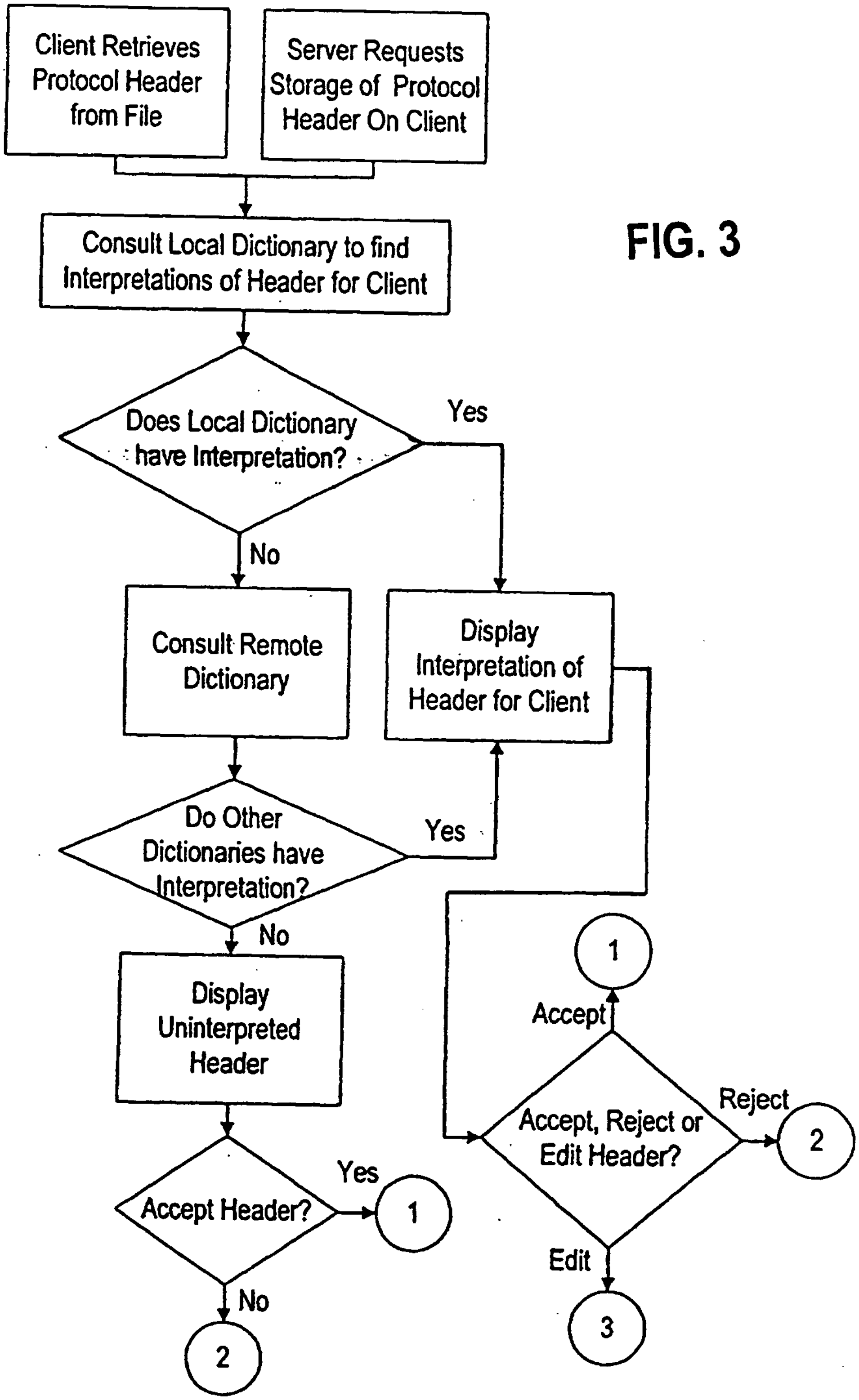

Client Retrieves Protocol Header from File
Server Requests Storage of Protocol Header On Client
Consult Local Dictionary to find Interpretations of Header for Client
Does Local Dictionary have Interpretation?
Yes
No
Consult Remote Dictionary
Display Interpretation of Header for Client
Do Other Dictionaries have Interpretation?
Yes
No
Display Uninterpreted Header
Accept Header?
Yes
1
No
2
1
Accept
Accept, Reject or Edit Header?
Reject
2
Edit
3

FIG. 3

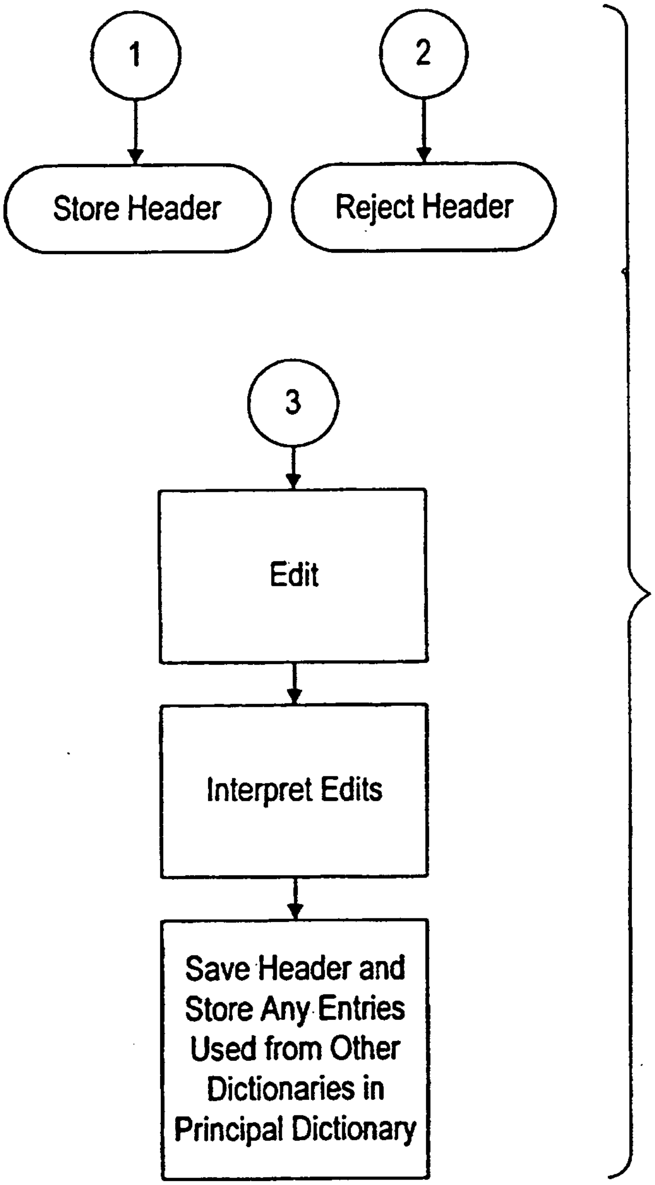

1
2
Store Header
Reject Header
3
Edit
Interpret Edits
Save Header and Store Any Entries Used from Other Dictionaries in Principal Dictionary

FIG. 4